

Laurent Michel Humeau

19220 Wheatfield Drive
Germantown
20876, Maryland, USA

Phone (301) 528 0213
Mobile (240) 271 1792
lm_humeau@yahoo.com

Professional
Experience

09/06- Present **Vice President of Research and Development.** VIRxSYS Corporation
02/05-09/06 **Senior Director of Research and Development.** VIRxSYS Corporation
12/01-02/05 **Director of Cell Biology.** VIRxSYS Corporation
02/00-12/01 **Senior Scientist, R&D,** VIRxSYS Corporation,

Education

01/99-02/00 **Post Doctoral Fellow.**
Gastro-Intestinal Division, University of California at San Francisco.
01/98-01/99 **Post Doctoral Fellow.**
The Fetal treatment Center Research. University of California at San Francisco.
01/94-11/97 **Ph.D.,** Blood Cell Biology, Summa Cum Laude, from University Denis Diderot Paris 7, Paris, France. Thesis work performed at the Department of Gene Transfer and Cellular Therapy, Institute Paoli-Calmettes Cancer Center, Marseille, France, and Department of Human Immunology, DNAX Research Institute of Molecular and Cellular Biology, Palo Alto, CA

Publications

S. Braun, X. Lu, F. Wonq, M. Connoles, G. Qiu, Z. Chen, T. Slepishkina, V. Slepishkin, **LM, Humeau**, B. Dropulic and R.P. Johnson. Potent inhibition of Simian Immunodeficiency Virus (SIV) replication by an SIV-based lentiviral vector expressing antisense env. *Hum. Gene Ther.* Vol 18 (7): 653-664

LM. Humeau, BL. Levine, J. Boyer, RR. MacGregor, T. Rebello, X. Lu, GK. Binder, V. Slepishkin, F. Lemiale, JR. Mascola, FD. Bushman, B. Dropulic and CH. June. Gene transfer in human using a conditionally replicating lentiviral vector. *Proceeding of the National Academy of Sciences, USA*, 103(46): 17372-7, 2006.

SE. Braun, FE. Wong, M. Connoles, G. Qiu, L. Lee, J. Gillis, X. Lu, **L. Humeau**, V. Slepishkin, GK. Binder, B. Dropulic and R.P. Johnson. Inhibition of simian/human immunodeficiency virus replication in CD4+ T cells derived from lentiviral-transduced CD34+ hematopoietic cells. *Molecular Therapy*, 12(6): 1157-67, 2005.

P. Manilla, T. Rebello, C. Afable, X. Lu, V. Slepishkin, **LM. Humeau**, K. Schonely, Y. Ni, GK. Binder, RR. MacGregor, CH. June and B. Dropulic. *Human Gene Therapy*, 16(1): 17-25, 2005.

Y. Ni, S. Sun, I. Oparaocha, **L. Humeau**, B. Davis, R. Cohen, G. Binder, YN. Chang, V. Slepishkin and B. Dropulic. Generation of a packaging cell line for prolonged large-scale production of high-titer HIV-1 based lentiviral vector. *Journal of Gene Medicine*, 7(6): 818-34, 2005.

B.M. Davis, **L. Humeau**, V. Slepishkin, G. Binder, L. Korshalla, Y. Ni, E. Ogunjimi, L.F. Chang, X. Lu and B. Dropulic. ABC transporter inhibitors that are substrates enhance lentiviral vector transduction into primitive hematopoietic progenitor cells. *Blood*, 104(2):364-73, 2004.

L. Humeau, G. Binder, X. Lu, V. Slepishkin, R. Merling, P. Echeagaray, M. Pereira, T. Slepishkina, S. Barnett, L. Dropulic, R. Carroll, B. Levine, C. June and B. Dropulic. Efficient lentiviral vector-mediated control of HIV-1 replication in lymphocytes from HIV+ patients discordant for clinical status. *Molecular Therapy*, 9(6): 902-13, 2004.

L. Humeau, X. Lu, V. Slepishkin, G. Binder, Q. Yu, T. Slepishkina, Z. Chen, R. Merling, B. Davis, Y.N. Chang and B. Dropulic. Safe two-plasmid production for the first clinical lentivirus vector that achieves >99% transduction in primary cells using a one-step protocol. *Journal of Gene Medicine*, 6(9):963-73, 2004.

B.M. Davis, **L. Humeau**, and B. Dropulic. In vivo selection for human and murine hematopoietic cells transduced with a therapeutic MGMT lentiviral vector that inhibits HIV replication. *Molecular Therapy*, 9(2): 160-172, 2004.

M.O. Muench, J. Rae, A. Bárcena, T. Leemhuis, J. Farrell, **L. Humeau**, J.R. Maxwell-Wiggins, J. Capper, G.B. Mychaliska, C.T. Albanese, T. Martin, A. Tsukamoto, J.T. Cumutte and M.R. Harrison. Transplantation of a fetus with parental Thy-1+ CD34+ cells for chronic granulomatous disease. *Bone Marrow Transplantation*, 27(4):355-64, 2001.

J.F. Martini, C. Piot, **L. Humeau**, I. Struman, J. Martial, and R.I. Weiner. The antiangiogenic factor 16 Kda Prolactine induces programmed cell death in endothelial cells by caspase activation. *Molecular Endocrinology*, 14(10): 1536-49, 2000.

M.O. Muench, **L. Humeau**, B. Paek, T. Ohkubo, L.L. Lanier, C.T. Albanese and A. Bárcena. Differential effects of interleukin-3, interleukin-7, interleukin-15, and granulocyte-macrophage colony-stimulating factor in the generation of natural-killer and B cells from primitive human fetal liver progenitors. *Experimental Hematology*, 28(8): 961-73, 2000.

T. Aurran-Schleinitz, A.M. Imbert, **L. Humeau**, F. Bardin, P. Charbord and C. Chabannon. Early progenitors cells from mobilized peripheral blood express low levels of the Flt3 receptor, and exhibit biological responses to Flt3-ligand. *British Journal of Haematology*, 106(2): 357-367, 1999.

R. Namikawa, M.O. Muench, M.T. Firpo, **L. Humeau**, Y. Xu, S. Menon and M.G. Roncarolo. Administration of Flk2/Flt3 ligand induces expansion of human high-proliferative potential colony-forming cells in the SCID-hu mouse. *Experimental Hematology*, 27(6): 1029-1037, 1999.

L. Humeau, R. Namikawa, F. Bardin, P. Mannoni, M.G. Roncarolo and C. Chabannon. Ex vivo manipulations alter the reconstitution potential of mobilized CD34+ peripheral blood progenitors evaluated in SCID-hu mice. *Leukemia*, 13(3): 438-452, 1999.

L. Humeau, P. Mannoni and C. Chabannon. Human CD34+CD38- fetal liver cells are able to repopulate myeloid, B and T lymphoid lineages in SCID-hu mice. *Medicine Sciences*, 14(3): 356-357, 1998.

J.P. Daziano, **L. Humeau**, M. Henry, P. Manonni, C. Chabannon, M. Chanon and M. Julliard. Preferential photoinactivation of leukemia cells. Implication for autologous purging of hematopoietic stem cells. *Journal of Photochemistry and Photobiology B*, 43(2): 128-135, 1998.

L. Humeau, C. Chabannon, M. Firpo, P. Mannoni, C. Bagnis, M.G. Roncarolo and R. Namikawa. Successful reconstitution of human hematopoiesis in the SCID-hu mouse by genetically modified, highly enriched progenitors isolated from fetal liver. *Blood*, 90(9): 3496-3506, 1997.

N. Uchida, Z. Yang, J. Combs, O. Pourquié, M. Nguyen, R. Ramanathan, J. Fu, A.M. Welpy, S. Chen, G. Weddell, A.K. Sharma, K.R. Leibly, D. Karagogeos, B. Hill, **L. Humeau**, W.B. Stallcup, R. Hoffman, A.S. Tsukamoto, D.P. Gearing, B. Péault. The characterization, molecular cloning and expression of a novel hematopoietic cell antigen from CD34+ human bone marrow cells. *Blood*, 89(9): 2706-2716, 1997.

P. Charbord, M. Taviani, **L. Humeau** and B. Péault. Early ontogeny of the human marrow from long bones: an immunohistochemical study of the hematopoiesis and its microenvironment. *Blood*, 87(10): 4109-4119, 1996.

L. Humeau, F. Bardin, C. Maroc, T. Alario, R. Galindo, P. Mannoni and C. Chabannon. Phenotypic, molecular and functional characterization of human peripheral blood CD34+ / Thy-1+ cells. *Blood*, 87(3): 949-955, 1996.

P. Charbord, M. Taviani, D. Luton, H. San Clemente, **L. Humeau**, F. Dieterlen-Lièvre and B. Péault. Ontogénèse précoce du système hématopoïétique humain. Review in: *C. R. Seances Soc. Biol. Fil.*, 189(4): 601-609, 1996.

J.P. Daziano, **L. Humeau**, C. Chabannon, P. Mannoni and M. Julliard. Preferential tumoral phototoxicity of J chloroaluminium phthalocyanine in photodynamic therapy of human leukemic cells. *C.R. Seances Soc. Biol. Fil.*, 189(3): 407-417, 1995.

Invited Articles

K. Schonely, C. Afable, V. Slepishkin, X. Lu, K. Andre, J. Boehmer, K. Bengston, M. Doub, R. Cohen, D. Berlinger, T. Slepishkina, Z. Chen, Y. Li, G. Binder, B. Davis, **L. Humeau** and B. Dropulic. QC release of an HIV-1 based lentiviral vector lot and transduced cellular product. *Bioprocessing Journal*, 2:39-47, 2003.

V. Slepishkin, N. Chang, R. Cohen, Y. Gan, B. Jiang, E. Deausen, D. Berlinger, G. Binder, K. Andre, **L. Humeau** and B. Dropulic. Large-scale purification of a lentiviral vector by size exclusion chromatography or mustang Q ion exchange capsule. *Bioprocessing Journal*, 2:89-95, 2003.

Review

C. Chabannon, B. Calmels and **L. Humeau**. Amplification *in vitro* et manipulation genetique des progeniteurs hematopoietiques humains. *Hematologie*, 8: 103-112, 2002.

Invited Speaker

Phacilitate Cell & Gene Therapy Forum, Baltimore, 2007
Williamsburg Bioprocessing Foundation 11th Cell & Tissue Bioprocessing Conference, Seattle, 2006
International Beilstein Workshop, Bozen, Italy, 2006
8th European Biotechnology Crossroads, Marseille, France, 2004

Issued Patent

US 6,627,442 - "Methods for stable transduction of cells with viral vectors", **L. Humeau et al.**

Patent Applications

US 2007/0036783. Antibody complexes. **L. Humeau et al.**
WO 2006/127585 A2. Transduction of primary cells. V. Slepishkin and **L. Humeau**.
US 2006/0003452. Vector packaging cell line. **L. Humeau et al.**
US 2005/0123514. Increased transduction using ABC transporter substrates and/or inhibitors. B. Davis et al.
US 2004/0062756. Methods for stable transduction of cells with viral vectors. **L. Humeau et al.**
US 2004/0033595. Conditionally replicating vectors for inhibiting viral infections. **L. Humeau et al.**

Oral Presentations

American Society of Gene Therapy, Baltimore, 2006
American Society of Gene Therapy, St Louis, 2005
American Society of Gene Therapy, Minneapolis 2004.
International Society of Cellular Therapy, Dublin 2004.
American Society of Hematology, San Diego 2003.
International Society of Cellular Therapy, Phoenix 2003.
International Society of Experimental Hematology, Cannes 1997.
Club Hématopoïèse et Oncogénèse - Société Française d'Hématologie, Giens, 1996.
International Society of Experimental Hematology, New York 1996.
Société Française de Recherche sur les Radicaux Libres, Paris 1995.
American Society of Hematology, Memphis 1994.

Awards

International Society of Cellular Therapy, Dublin 2004. Best abstract
Association Méditerranéenne pour le Développement des Transplantations, Marseille 1997. Thesis work.
2nd meeting of the European Haematology Association, Paris, 1996. Graduate travel award.

Grants

Principal Investigator, SBIR phase II R44 AIO51908 " HIV-1 vector mediated gene therapy for HIV infection" – 2004 to 2007